

CLAIMS

What I claim is:

1. A video processing method comprising the steps of:

in a first mode of operation:

receiving a digitized video stream;

compressing said video stream using a selected first compression
5 algorithm;

recording the compressed video stream;

creating a record indicating that said recorded, compressed video
stream was compressed using said first compression algorithm;
and

10 storing said record; and

in a second mode of operation, different from said first mode:

retrieving said stored record; and

if the retrieved record indicates that said recorded, compressed video
stream was compressed using said first compression algorithm:

15 reading the recorded, compressed video stream;

processing said recorded, compressed video stream using a
selected video processing algorithm;

recording the processed, compressed video stream;

modifying said record to indicate that said recorded, re-

20 compressed video stream was processed using said selected
video processing algorithm; and

storing said modified record.

2. The method of claim 1 wherein said first mode of operation comprises on-line operation in real time.

3. The method of claim 2 wherein said second mode of operation comprises off-line operation in non-real time.

4. The method of claim 1 wherein:

said step of processing said recorded, compressed video stream is further characterized as:

re-compressing said recorded, compressed video stream using a selected second compression algorithm;

said step of recording the processed, compressed video stream is further characterized as:

recording the re-compressed video stream; and

said step of modifying said record is further characterized as:

modifying said record to indicate that said recorded, re-compressed video stream was re-compressed using said second compression algorithm.

5. The method of claim 1 wherein:

said step of processing said recorded, compressed video stream is further characterized as:

enhancing said recorded, compressed video stream using a selected enhancement algorithm;

said step of recording the processed, compressed video stream is further characterized as:

recording the enhanced, compressed video stream; and

said step of modifying said record is further characterized as:

modifying said record to indicate that said recorded, compressed video stream was enhanced using said selected enhancement algorithm.

6. The method of claim 1 wherein:

said step of processing said recorded, compressed video stream is further characterized as:

processing said recorded, compressed video stream using a selected enhancement algorithm and a selected second compression algorithm;

said step of recording the processed, compressed video stream is further characterized as:

recording the enhanced, re-compressed video stream; and

said step of modifying said record is further characterized as:

modifying said record to indicate that said recorded, enhanced, re-compressed video stream was processed using said selected enhancement algorithm and said selected second compression algorithm.

7. A video processing method comprising the steps of:

in a first mode of operation:

receiving a digitized video stream;

compressing said video stream using a selected compression
5 algorithm;

recording the compressed video stream;

creating a record indicating that said recorded, compressed video
stream was compressed using said selected compression
algorithm; and

10 storing said record; and

in a second mode of operation, different from said first mode:

retrieving said stored record; and

if the retrieved record indicates that said recorded, compressed video
stream was compressed using said first compression algorithm:

15 reading the recorded, compressed video stream;

re-compressing said recorded, compressed video stream using a
selected second compression algorithm;

recording the re-compressed video stream;

modifying said record to indicate that said recorded, re-

20 compressed video stream was re-compressed using said
second compression algorithm; and

storing said modified record.

8. The method of claim 7 wherein said first mode of operation comprises
on-line operation in real time.

9. The method of claim 8 wherein said second mode of operation
comprises off-line operation in non-real time.

10. A video processing method comprising the steps of:

in a first mode of operation:

receiving a digitized video stream;

compressing said video stream using a selected compression
5 algorithm;

recording the compressed video stream;

creating a record indicating that said recorded, compressed video
stream was compressed using said selected compression
algorithm; and

10 storing said record; and

in a second mode of operation, different from said first mode:

retrieving said stored record; and

if the retrieved record indicates that said recorded, compressed video
stream was compressed using said first compression algorithm:

15 reading the recorded, compressed video stream;

enhancing said recorded, compressed video stream using a
selected enhancement algorithm;

recording the enhanced, compressed video stream;

20 modifying said record to indicate that said recorded, compressed
video stream was enhanced using said selected enhancement
algorithm; and

storing said modified record.

11. The method of claim 10 wherein said first mode of operation
comprises on-line operation in real time.

12. The method of claim 11 wherein said second mode of operation
comprises off-line operation in non-real time.

13. A video processing method comprising the steps of:

in a first mode of operation:

receiving a digitized video stream;

compressing said video stream using a selected first compression
5 algorithm;

recording the compressed video stream;

creating a record indicating that said recorded, compressed video
stream was compressed using said selected first compression
algorithm; and

10 storing said record; and

in a second mode of operation, different from said first mode:

retrieving said stored record; and

if the retrieved record indicates that said recorded, compressed video
stream was compressed using said first compression algorithm:

15 reading the recorded, compressed video stream;

processing said recorded, compressed video stream using a
selected enhancement algorithm and a selected second
compression algorithm;

recording the enhanced, re-compressed video stream;

20 modifying said record to indicate that said recorded, enhanced, re-
compressed video stream was processed using said selected
enhancement algorithm and said selected second
compression algorithm; and

storing said modified record.

14. The method of claim 13 wherein said first mode of operation
comprises on-line operation in real time.

Parameter	Unit	Value	Uncertainty	Parameter	Unit	Value	Uncertainty
α_1	10^{-10}	0.0001	0.0001	α_2	10^{-10}	0.0001	0.0001
α_3	10^{-10}	0.0001	0.0001	α_4	10^{-10}	0.0001	0.0001
α_5	10^{-10}	0.0001	0.0001	α_6	10^{-10}	0.0001	0.0001
α_7	10^{-10}	0.0001	0.0001	α_8	10^{-10}	0.0001	0.0001
α_9	10^{-10}	0.0001	0.0001	α_{10}	10^{-10}	0.0001	0.0001
α_{11}	10^{-10}	0.0001	0.0001	α_{12}	10^{-10}	0.0001	0.0001
α_{13}	10^{-10}	0.0001	0.0001	α_{14}	10^{-10}	0.0001	0.0001
α_{15}	10^{-10}	0.0001	0.0001	α_{16}	10^{-10}	0.0001	0.0001
α_{17}	10^{-10}	0.0001	0.0001	α_{18}	10^{-10}	0.0001	0.0001
α_{19}	10^{-10}	0.0001	0.0001	α_{20}	10^{-10}	0.0001	0.0001
α_{21}	10^{-10}	0.0001	0.0001	α_{22}	10^{-10}	0.0001	0.0001
α_{23}	10^{-10}	0.0001	0.0001	α_{24}	10^{-10}	0.0001	0.0001
α_{25}	10^{-10}	0.0001	0.0001	α_{26}	10^{-10}	0.0001	0.0001
α_{27}	10^{-10}	0.0001	0.0001	α_{28}	10^{-10}	0.0001	0.0001
α_{29}	10^{-10}	0.0001	0.0001	α_{30}	10^{-10}	0.0001	0.0001
α_{31}	10^{-10}	0.0001	0.0001	α_{32}	10^{-10}	0.0001	0.0001
α_{33}	10^{-10}	0.0001	0.0001	α_{34}	10^{-10}	0.0001	0.0001
α_{35}	10^{-10}	0.0001	0.0001	α_{36}	10^{-10}	0.0001	0.0001
α_{37}	10^{-10}	0.0001	0.0001	α_{38}	10^{-10}	0.0001	0.0001
α_{39}	10^{-10}	0.0001	0.0001	α_{40}	10^{-10}	0.0001	0.0001
α_{41}	10^{-10}	0.0001	0.0001	α_{42}	10^{-10}	0.0001	0.0001
α_{43}	10^{-10}	0.0001	0.0001	α_{44}	10^{-10}	0.0001	0.0001
α_{45}	10^{-10}	0.0001	0.0001	α_{46}	10^{-10}	0.0001	0.0001
α_{47}	10^{-10}	0.0001	0.0001	α_{48}	10^{-10}	0.0001	0.0001
α_{49}	10^{-10}	0.0001	0.0001	α_{50}	10^{-10}	0.0001	0.0001
α_{51}	10^{-10}	0.0001	0.0001	α_{52}	10^{-10}	0.0001	0.0001
α_{53}	10^{-10}	0.0001	0.0001	α_{54}	10^{-10}	0.0001	0.0001
α_{55}	10^{-10}	0.0001	0.0001	α_{56}	10^{-10}	0.0001	0.0001
α_{57}	10^{-10}	0.0001	0.0001	α_{58}	10^{-10}	0.0001	0.0001
α_{59}	10^{-10}	0.0001	0.0001	α_{60}	10^{-10}	0.0001	0.0001
α_{61}	10^{-10}	0.0001	0.0001	α_{62}	10^{-10}	0.0001	0.0001
α_{63}	10^{-10}	0.0001	0.0001	α_{64}	10^{-10}	0.0001	0.0001
α_{65}	10^{-10}	0.0001	0.0001	α_{66}	10^{-10}	0.0001	0.0001
α_{67}	10^{-10}	0.0001	0.0001	α_{68}	10^{-10}	0.0001	0.0001
α_{69}	10^{-10}	0.0001	0.0001	α_{70}	10^{-10}	0.0001	0.0001
α_{71}	10^{-10}	0.0001	0.0001	α_{72}			

16. In a video processing method comprising the steps of:

in a first mode of operation:

receiving a digitized video stream;

compressing said video stream using a selected first compression
5 algorithm;

recording the compressed video stream;

creating a record indicating that said recorded, compressed video
stream was compressed using said first compression algorithm;
and

10 storing said record;

the improvement comprising:

in a second mode of operation, different from said first mode:

retrieving said stored record; and

if the retrieved record indicates that said recorded, compressed video
15 stream was compressed using said first compression algorithm:

reading the recorded, compressed video stream;

processing said recorded, compressed video stream using a
selected video processing algorithm;

recording the processed, compressed video stream;

20 modifying said record to indicate that said recorded, re-
compressed video stream was processed using said selected
video processing algorithm; and

storing said modified record.

17. A video processing apparatus:

operative in a first mode of operation to:

receive a digitized video stream;

compress said video stream using a selected first compression
algorithm;

record the compressed video stream;

create a record indicating that said recorded, compressed video stream
was compressed using said first compression algorithm; and
store said record; and

operative in a second mode of operation, different from said first mode,
to:

retrieve said stored record; and

if the retrieved record indicates that said recorded, compressed video
stream was compressed using said first compression algorithm:

read the recorded, compressed video stream;

process said recorded, compressed video stream using a selected
video processing algorithm;

record the processed, compressed video stream;

modify said record to indicate that said recorded, re-compressed
video stream was processed using said selected video
processing algorithm; and

store said modified record.

18. The apparatus of claim 17 wherein:

in processing said recorded, compressed video stream the apparatus re-
compresses said recorded, compressed video stream using a selected
second compression algorithm;

in recording the processed, compressed video stream the apparatus records the re-compressed video stream; and

in modifying said record the apparatus modifies said record to indicate that said recorded, re-compressed video stream was re-compressed using said second compression algorithm.

19. The apparatus of claim 17 wherein:

in processing said recorded, compressed video stream the apparatus enhances said recorded, compressed video stream using a selected enhancement algorithm;

in recording the processed, compressed video stream the apparatus records the enhanced, compressed video stream; and

in modifying said record the apparatus modifies said record to indicate that said recorded, enhanced, compressed video stream was enhanced using said selected enhancement algorithm.

20. The apparatus of claim 17 wherein:

in processing said recorded, compressed video stream the apparatus enhances said video stream using a selected enhancement algorithm, and re-compresses said enhanced video stream using a selected second compression algorithm;

in recording the processed, compressed video stream the apparatus records the enhanced, re-compressed video stream; and

in modifying said record the apparatus modifies said record to indicate that said recorded, enhanced, re-compressed video stream was enhanced using said selected enhancement algorithm and re-compressed using said selected second compression algorithm.

21. The apparatus of claim 17 wherein the apparatus is controlled by a digital computer operating in response to a sequence of instructions comprising a computer program.